**Guided Notes – Immune System Day 1**

**Directions: complete the guided notes and place on page 44 of ISN**

| What is your body’s defense system? | • Microscopic organisms and particles can cause sickness. Your body has ways to prevent sickness.  
  • A _________________ is an organism, virus, or protein that causes disease. The skin provides external protection against pathogens that may enter the body. |
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| The First Line of Defense! Your skin! | • The skin and all of the structures make up the ______________________________ system.  
  • Hair, nails, and sweat and oil glands can help protect the body. |
| How does the immune system defend the body? | • When a pathogen enters the body, inflammation may occur.  
  • _________________ is the swelling and increased blood flow that happens as the body reacts to the pathogen.  
  • _________________ are cell pieces in blood that help seal a wound on the body. _________________, or a raise in body temperature, slows the growth of bacteria and pathogens |
| The Immune System – Your body’s army! | • ______________________________ is made up of tissues and specialized white blood cells that recognize and attack foreign substances in the body.  
  • White blood cells can move out of blood vessels and destroy invading pathogens.  
  • ______________________________ is a white blood cell that destroys pathogens by engulfing and digesting them.  
  • Macrophages help start the immune response to ______________________________.  
  • An ______________________________ is a substance that stimulates a response by the immune system.  
  • ______________________________ can coordinate the body’s immune response and attack infected cells. |

Three Levels of defense:
1. ______________________________
2. ______________________________
3. ______________________________
• **_________ cells** activate ___________ T-cells, which attack infected body cells.

• **_______cells**, once activated by helper T cells, make antibodies that attach to specific antigens.

• An **_________________________** is a specialized protein that binds to a specific antigen to tag it for destruction.

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**Immunity – How to get it!**

• **_________________________** is the ability to resist or recover from an infectious disease. Immunity can be passed from mother to fetus.

• Immunity can also result from being **_________________________** with a disease or from being **_________________________**.

• Once a body has found a pathogen, the body produces **memory cells**.

• **_________________________** cells are T cells and B cells that remember specific pathogens.

• A **_________________________** is a substance prepared from killed or weakened pathogens that is introduced into the body to produce immunity.

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**Challenges to the Immune system**

• An immune system response to a harmless or common substance is called an **_________________________**.

• **_________________________** is a group of diseases in which cells divide at an uncontrollable rate. The immune system may not be able to stop the cells from growing.

• **_________________________** occurs when the immune system fails to develop properly or becomes weakened.

• **_________________________** is a disease in which the immune system attacks the body’s own cells.
Fold guided notes in half so this section is on the outside. Glue on page 44 of your journal

Write the benchmark here:

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Go to Mrs. Colyer’s website for more review of this benchmark!

http://soniacolyer.wixsite.com/hms6thgradescience